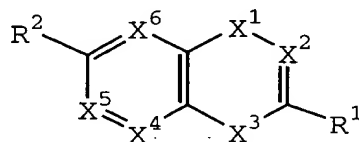


WHAT IS CLAIMED IS:

1. A method of treating inosine monophosphate dehydrogenase associated disorders comprising:
 5 administering a therapeutically effective amount of a compound of formula (I)



(I)

- 10 including isomers, enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, prodrugs and solvates thereof wherein:

X^1 is C=O, -S(O)-, or -S(O)₂-;

X^2 is CR³ or N;

- 15 X^3 is -NH-, -O-, or -S-;

X^4 is CR⁴ or N;

X^5 is CR⁵ or N;

X^6 is CR⁶ or N;

- 20 R^1 is alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, NR⁸R⁹, SR²⁰, cycloalkyl, substituted cycloalkyl, aryl, substituted aryl, heterocycloalkyl, or heteroaryl;

- 25 R^2 is halogen, cyano, nitro, hydroxy, oxo (double bond is no longer present between CR² and X⁶), SR⁷, S(O)R⁷, SO₂R⁷, SO₂NR⁸R⁹, CO₂R⁷, C(O)NR⁸R⁹, or heteroaryl;

- 30 R^3 is hydrogen, hydroxy, halogen, cyano, CO₂R⁷, NR⁸R⁹, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, cycloalkyl, substituted cycloalkyl, aryl, substituted aryl, heterocycloalkyl or heteroaryl;

R⁴, R⁵, and R⁶ are independently selected from the group consisting of hydrogen, halogen, nitro, cyano, O-R⁷, NR⁸R⁹, SR⁷, S(O)R⁷, SO₂R⁷, SO₃R⁷, SO₂NR⁸R⁹, CO₂R⁷, C(O)NR⁸R⁹, C(O)alkyl, C(O)substituted alkyl, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl and substituted alkynyl;

R⁷, R¹⁰, and R¹¹, are independently selected from the group consisting of hydrogen, alkyl, substituted alkyl, alkenyl, alkynyl, cycloalkyl, substituted cycloalkyl, C(O)alkyl, C(O)substituted alkyl, C(O)cycloalkyl, C(O)substituted cycloalkyl, C(O)aryl, C(O)substituted aryl, C(O)Oalkyl, C(O)Osubstituted alkyl, C(O)heterocycloalkyl, C(O)heteroaryl, aryl, substituted aryl, heterocycloalkyl and heteroaryl;

R⁸ and R⁹ are independently selected from the group consisting of hydrogen, alkyl, substituted alkyl, cycloalkyl, substituted cycloalkyl, alkenyl, alkynyl, C(O)alkyl, C(O)substituted alkyl, C(O)cycloalkyl, C(O)substituted cycloalkyl, C(O)aryl, C(O)substituted aryl, C(O)Oalkyl, C(O)Osubstituted alkyl, C(O)heterocycloalkyl, C(O)heteroaryl, aryl, substituted aryl, heterocycloalkyl, and heteroaryl or R⁸ and R⁹ taken together with the nitrogen atom to which they are attached complete a heterocycloalkyl or heteroaryl ring;

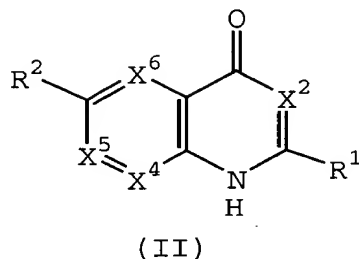
R²⁰ is alkyl, substituted alkyl, cycloalkyl, aryl, substituted aryl, heteroaryl or heterocycloalkyl;

R³ and R¹ may be taken together with the carbon atoms to which they are attached to form a monocyclic or substituted monocyclic ring system of 5 or 6 carbon atoms; and

R⁴ and R⁵ may be joined together by the chain -O-CH₂-O- or -O-CH₂-CH₂-O- .

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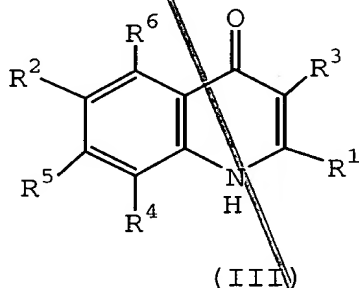
2. A method of claim 1 comprising: administering a therapeutically effective amount of a compound of formula (II)



including isomers, enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, prodrugs and solvates thereof wherein:

R^2 is a monocyclic substituted or unsubstituted heteroaryl group.

3. A method of claim 2 comprising: administering a therapeutically effective amount of a compound of formula (III)



including isomers, enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, prodrugs and solvates thereof wherein:

R^2 is 4-oxazolyl, substituted 4-oxazolyl, 5-oxazolyl, or substituted 5-oxazolyl;

R^3 is hydrogen, hydroxy, NR^8R^9 , alkyl of 1 to 4 carbons, alkenyl of 2 to 4 carbons, alkynyl of 2 to 4

carbons, substituted alkyl of 1 to 4 carbons, phenyl, substituted phenyl, cycloalkyl of 5 to 7 carbons, substituted cycloalkyl of 5 to 7 carbons, monocyclic heterocycloalkyl and monocyclic heteroaryl;

5 R^4 is hydrogen, halogen, nitro, hydroxy, alkyl of 1 to 4 carbons, cyano, CF_3 , OCF_3 , OCH_3 , SCH_3 , $S(O)CH_3$, or $S(O)_2CH_3$;

R^5 is hydrogen, halogen, nitro, hydroxy, alkyl of 1 to 4 carbons, cyano, vinyl, CF_3 , CF_2CF_3 , $CH=CF_2$, OCH_3 ,
10 OCF_3 , $OCHF_2$, SCH_3 , $S(O)CH_3$, or $S(O)_2CH_3$; and

R^6 is hydrogen, halogen, nitro, hydroxy, alkyl of 1 to 4 carbons, cyano, CF_3 , OCH_3 , OCF_3 , SCH_3 , $S(O)CH_3$, and $S(O)_2CH_3$.

15 4. A method of Claim 3 comprising: administering a therapeutically effective amount of a compound including isomers, enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, prodrugs and solvates wherein:

20 R^2 is 4-oxazolyl, substituted 4-oxazolyl, 5-oxazolyl, substituted 5-oxazolyl or heteroaryl;

R^3 is hydrogen, hydroxy, halogen, methyl or NR^8R^9 ;

R^4 is hydrogen;

R^5 is halogen, methyl, ethyl, substituted alkenyl,
25 alkyne, OMe or OCF_3 ; and

R^6 is hydrogen.

5. A method of Claim 4 comprising: administering a therapeutically effective amount of a compound including
30 isomers, enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, prodrugs and solvates wherein:

R^2 is 4-oxazolyl, substituted 4-oxazolyl, 5-oxazolyl or substituted 5-oxazolyl;

35 R^3 is hydrogen, hydroxy, halogen or methyl;

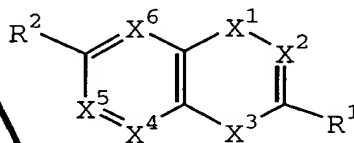
R⁴ is hydrogen;

R⁵ is halogen, methyl or OMe; and

R⁶ is hydrogen.

- 5 6. A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering a therapeutically effective amount of a phosphodiesterase Type 4 inhibitor and a compound of formula (X):

10



(X)

- including isomers, enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, prodrugs and solvates thereof wherein:

15 X¹ is C=O, -S(O)-, or -S(O)₂-;

X² is CR³ or N;

X³ is -NH-, -O-, or -S-;

X⁴ is CR⁴ or N;

20 X⁵ is CR⁵ or N;

X⁶ is CR⁶ or N;

R¹ is alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, NR⁸R⁹, SR²⁰, cycloalkyl, substituted cycloalkyl, aryl, substituted aryl, heterocycloalkyl, or heteroaryl;

R² is halogen, cyano, nitro, hydroxy, oxo (double bond is no longer present between CR² and X⁶), SR⁷, S(O)R⁷, SO₂R⁷, SO₂NR⁸R⁹, CO₂R⁷, C(O)NR⁸R⁹, or heteroaryl;

R³ is hydrogen, hydroxy, halogen, cyano, CO₂R⁷, NR⁸R⁹, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, cycloalkyl, substituted

cycloalkyl, aryl, substituted aryl, heterocycloalkyl or heteroaryl;

5 R^4 , R^5 , and R^6 are independently selected from the group consisting of hydrogen, halogen, nitro, cyano, $O-R^7$, NR^8R^9 , SR^7 , $S(O)R^7$, SO_2R^7 , SO_3R^7 , $SO_2NR^8R^9$, CO_2R^7 , $C(O)NR^8R^9$, $C(O)alkyl$, $C(O)substituted alkyl$, $alkyl$, $substituted alkyl$, $alkenyl$, $substituted alkenyl$, $alkynyl$ and $substituted alkynyl$;

10 R^7 , R^{10} , and R^{11} , are independently selected from the group consisting of hydrogen, $alkyl$, $substituted alkyl$, $alkenyl$, $alkynyl$, $cycloalkyl$, $substituted cycloalkyl$, $C(O)alkyl$, $C(O)substituted alkyl$, $C(O)cycloalkyl$, $C(O)substituted cycloalkyl$, $C(O)aryl$, $C(O)substituted aryl$, $C(O)Oalkyl$, $C(O)Osubstituted alkyl$,
15 $C(O)heterocycloalkyl$, $C(O)heteroaryl$, $aryl$, $substituted aryl$, $heterocycloalkyl$ and $heteroaryl$;

R^8 and R^9 are independently selected from the group consisting of hydrogen, $alkyl$, $substituted alkyl$, $cycloalkyl$, $substituted cycloalkyl$, $alkenyl$, $alkynyl$,
20 $C(O)alkyl$, $C(O)substituted alkyl$, $C(O)cycloalkyl$, $C(O)substituted cycloalkyl$, $C(O)aryl$, $C(O)substituted aryl$, $C(O)Oalkyl$, $C(O)Osubstituted alkyl$, $C(O)heterocycloalkyl$, $C(O)heteroaryl$, $aryl$, $substituted aryl$, $heterocycloalkyl$, and $heteroaryl$ or R^8 and R^9 taken
25 together with the nitrogen atom to which they are attached complete a heterocycloalkyl or heteroaryl ring;

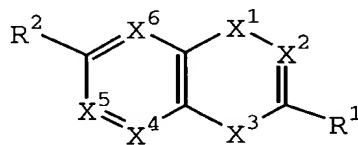
R^{20} is $alkyl$, $substituted alkyl$, $cycloalkyl$, $aryl$, $substituted aryl$, $heteroaryl$ or $heterocycloalkyl$;

30 R^3 and R^1 may be taken together with the carbon atoms to which they are attached to form a monocyclic or substituted monocyclic ring system of 5 or 6 carbon atoms; and

R^4 and R^5 may be joined together by the chain $-O-CH_2-O-$ or $-O-CH_2-CH_2-O-$.

35

A method for the treatment or prevention of allograft rejection comprising: administering a therapeutically effective amount of a phosphodiesterase Type 4 inhibitor and a compound of formula (X):



(X)

including isomers, enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, prodrugs and solvates thereof wherein:

X¹ is C=O, -S(O)-, or -S(O)₂-;

X² is CR³ or N;

X³ is -NH-, -O-, or -S-;

X⁴ is CR⁴ or N;

X⁵ is CR⁵ or N;

X⁶ is CR⁶ or N;

R¹ is alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, NR⁸R⁹, SR²⁰, cycloalkyl, substituted cycloalkyl, aryl, substituted aryl, heterocycloalkyl, or heteroaryl;

R² is halogen, cyano, nitro, hydroxy, oxo (double bond is no longer present between CR² and X⁶), SR⁷, S(O)R⁷, SO₂R⁷, SO₂NR⁸R⁹, CO₂R⁷, C(O)NR⁸R⁹, or heteroaryl;

R³ is hydrogen, hydroxy, halogen, cyano, CO₂R⁷, NR⁸R⁹, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, cycloalkyl, substituted cycloalkyl, aryl, substituted aryl, heterocycloalkyl or heteroaryl;

R⁴, R⁵, and R⁶ are independently selected from the group consisting of hydrogen, halogen, nitro, cyano,

O-R⁷, NR⁸R⁹, SR⁷, S(O)R⁷, SO₂R⁷, SO₃R⁷, SO₂NR⁸R⁹, CO₂R⁷,
C(O)NR⁸R⁹, C(O)alkyl, C(O)substituted alkyl, alkyl,
substituted alkyl, alkenyl, substituted alkenyl, alkynyl
and substituted alkynyl;

5 R⁷, R¹⁰, and R¹¹, are independently selected from the
group consisting of hydrogen, alkyl, substituted alkyl,
alkenyl, alkynyl, cycloalkyl, substituted cycloalkyl,
C(O)alkyl, C(O)substituted alkyl, C(O)cycloalkyl, C(O)
substituted cycloalkyl, C(O)aryl, C(O)substituted aryl,
10 C(O)Oalkyl, C(O)Osubstituted alkyl, C(O)heterocycloalkyl,
C(O)heteroaryl, aryl, substituted aryl, heterocycloalkyl
and heteroaryl;

R⁸ and R⁹ are independently selected from the group
consisting of hydrogen, alkyl, substituted alkyl,
15 cycloalkyl, substituted cycloalkyl, alkenyl, alkynyl,
C(O)alkyl, C(O)substituted alkyl, C(O)cycloalkyl,
C(O)substituted cycloalkyl, C(O)aryl, C(O)substituted
aryl, C(O)Oalkyl, C(O)Osubstituted alkyl,
C(O)heterocycloalkyl, C(O)heteroaryl, aryl, substituted
20 aryl, heterocycloalkyl, and heteroaryl or R⁸ and R⁹ taken
together with the nitrogen atom to which they are
attached complete a heterocycloalkyl or heteroaryl ring;

R²⁰ is alkyl, substituted alkyl, cycloalkyl, aryl,
substituted aryl, heteroaryl or heterocycloalkyl;

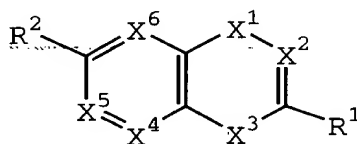
25 R³ and R¹ may be taken together with the carbon atoms
to which they are attached to form a monocyclic or
substituted monocyclic ring system of 5 or 6 carbon
atoms; and

R⁴ and R⁵ may be joined together by the chain
30 -O-CH₂-O- or -O-CH₂-CH₂-O- .

8. A method of Claim 6 wherein: the phosphodiesterase
Type 4 inhibitor is Rolipram.

9. A method of Claim 6 wherein: the phosphodiesterase Type 4 inhibitor is [4-[3-(cyclopentyloxy)-4-methoxy-phenyl]-2-pyrrolidinone].

5 10. A compound of formula (I)



(I)

including isomers, enantiomers, diastereomers, tautomers,
10 pharmaceutically acceptable salts, prodrugs and solvates thereof wherein:

X^1 is $C=O$, $-S(O)-$, or $-S(O)_2-$;

X^2 is CR^3 or N ;

X^3 is $-NH-$, $-O-$, or $-S-$;

15 X^4 is CR^4 or N ;

X^5 is CR^5 or N ;

X^6 is CR^6 or N ;

R^1 is alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, cycloalkyl,
20 substituted cycloalkyl, aryl, substituted aryl, heterocycloalkyl, or heteroaryl;

R^2 is cyano, hydroxy, oxo (double bond is no longer present between CR^2 and X^6), SR^7 , $S(O)R^7$, SO_2R^7 , $SO_2NR^8R^9$, CO_2R^7 , $C(O)NR^8R^9$, or heteroaryl;

25 R^3 is hydrogen, hydroxy, halogen, cyano, CO_2R^7 , NR^8R^9 , alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, cycloalkyl, substituted cycloalkyl, aryl, substituted aryl, heterocycloalkyl or heteroaryl;

30 R^4 , R^5 , and R^6 are independently selected from the group consisting of hydrogen, halogen, nitro, cyano,

O-R⁷, NR⁸R⁹, SR⁷, S(O)R⁷, SO₂R⁷, SO₃R⁷, SO₂NR⁸R⁹, CO₂R⁷, C(O)NR⁸R⁹, C(O)alkyl, C(O)substituted alkyl, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl and substituted alkynyl;

- 5 R⁷, R¹⁰, and R¹¹, are independently selected from the group consisting of hydrogen, alkyl, substituted alkyl, alkenyl, alkynyl, cycloalkyl, substituted cycloalkyl, C(O)alkyl, C(O)substituted alkyl, C(O)cycloalkyl, C(O) substituted cycloalkyl, C(O)aryl, C(O)substituted aryl, 10 C(O)Oalkyl, C(O)Osubstituted alkyl, C(O)heterocycloalkyl, C(O)heteroaryl, aryl, substituted aryl, heterocycloalkyl and heteroaryl;

- R⁸ and R⁹ are independently selected from the group consisting of hydrogen, alkyl, substituted alkyl, 15 cycloalkyl, substituted cycloalkyl, alkenyl, alkynyl, C(O)alkyl, C(O)substituted alkyl, C(O)cycloalkyl, C(O)substituted cycloalkyl, C(O)aryl, C(O)substituted aryl, C(O)Oalkyl, C(O)Osubstituted alkyl, C(O)heterocycloalkyl, C(O)heteroaryl, aryl, substituted 20 aryl, heterocycloalkyl, and heteroaryl or R⁸ and R⁹ taken together with the nitrogen atom to which they are attached complete a heterocycloalkyl or heteroaryl ring;

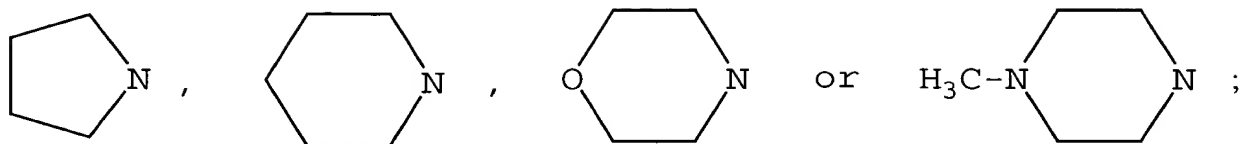
- R³ and R¹ may be taken together with the carbon atoms to which they are attached to form a monocyclic or 25 substituted monocyclic ring system of 5 or 6 carbon atoms; and

R⁴ and R⁵ may be joined together by the chain -O-CH₂-O- or -O-CH₂-CH₂-O-;

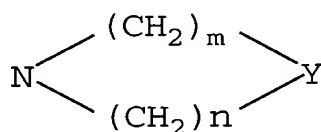
- 30 with the following provisos:

(c) when X¹ is C=O, X² is CR³, X³ is NH, X⁴ is CR⁴, X⁵ is CR⁵, X⁶ is CR⁶, R¹ is substituted or meta unsubstituted phenyl, R³ is H, R⁴ is H, R⁵ is H and R⁶ is H, then R² is not PhCONH,

35



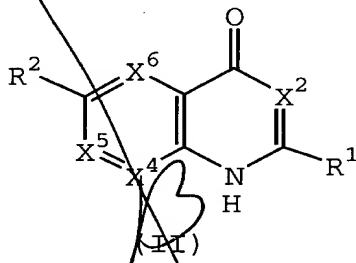
- 5 (d) when X^1 is $\text{C}=\text{O}$, X^2 is CR^3 , X^3 is NH , X^4 is CR^4 , X^5 is CR^5 , X^6 is CR^6 , R^1 is phenyl substituted with H , F , Cl , Br , I , CH_3 , CF_3 , OH , OCH_3 , OCF_3 , OCH_2CH_3 , NH_2 , NHCH_3 , $\text{N}(\text{CH}_3)_2$, O-benzyl , $-\text{C}(=\text{O})-\text{R}_0$, or $-\text{C}(=\text{O})-\text{OR}_0$ and R_0 is a lower alkyl group, R^3 is H , R^4 is H , R^5 is H and R^6 is H , then R^2 is
 10 not



15 where Y is CH_2 , O or S , m and n are each greater than 1, and the sum of m and n is between 3 and 6; and

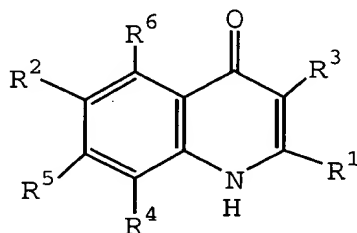
- 20 (c) when R^2 is heteroaryl, at least one of the heteroatoms must be O ;
 25

11. A compound of Claim 10 of formula (II)



25 including isomers, enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, prodrugs and solvates thereof wherein:

30 R^2 is a monocyclic substituted or unsubstituted heteroaryl group.



(III)

5 including isomers, enantiomers, diastereomers, tautomers,
pharmaceutically acceptable salts, prodrugs and solvates
thereof wherein:

R² is 4-oxazolyl, substituted 4-oxazolyl, 5-oxazolyl, or substituted 5-oxazolyl;

10 R³ is hydrogen, hydroxy, NR⁸R⁹, alkyl of 1 to 4
carbons, alkenyl of 2 to 4 carbons, alkynyl of 2 to 4
carbons, substituted alkyl of 1 to 4 carbons, phenyl,
substituted phenyl, cycloalkyl of 5 to 7 carbons,
substituted cycloalkyl of 5 to 7 carbons, monocyclic
15 heterocycloalkyl and monocyclic heteroaryl;

~~R⁴ is hydrogen, halogen, nitro, hydroxy, alkyl of 1 to 4 carbons, cyano, CF₃, OCF₃, OCH₃, SCH₃, S(O)CH₃, or S(O)₂CH₃;~~

20 R⁵ is hydrogen, halogen, nitro, hydroxy, alkyl of 1 to 4 carbons, cyano, vinyl, CF₃, CF₂CF₃, CH=CF₂, OCH₃, OCF₃, OCHF₂, SCH₃, S(O)CH₃, or S(O)₂CH₃; and

~~R⁶ is hydrogen, halogen, nitro, hydroxy, alkyl of 1 to 4 carbons, cyano, CF₃, OCH₃, OCF₃, SCH₃, S(O)CH₃, and S(O)₂CH₃.~~

25

13. A compound of Claim 12 including isomers, enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, prodrugs and solvates wherein:

R^2 is 4-oxazolyl, substituted 4-oxazolyl, 5-oxazolyl, substituted 5-oxazolyl or heteroaryl;

R^3 is hydrogen, hydroxy, halogen, methyl or NR^8R^9 ;

R^4 is hydrogen;

5 R^5 is halogen, methyl, ethyl, substituted alkenyl, alkyne, OMe or OCF_3 ; and

R^6 is hydrogen.

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10 14. A compound of Claim 13 including isomers, enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, prodrugs and solvates wherein:

R^2 is 4-oxazolyl, substituted 4-oxazolyl, 5-oxazolyl or substituted 5-oxazolyl;

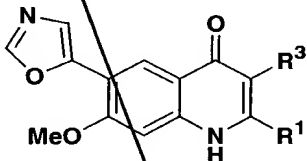
R^3 is hydrogen, hydroxy, halogen or methyl;

15 R^4 is hydrogen;

R^5 is halogen, methyl or OMe; and

R^6 is hydrogen.

20 15. A compound of Claim 10 of formula (V)

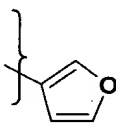


(V)

25 including isomers, enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, prodrugs and solvates selected from:

a compound of formula (V) wherein:

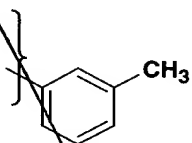
R^1 is



and R³ is hydrogen;

5 a compound of formula (V) wherein:

R¹ is

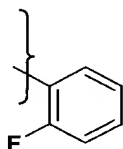


and R³ is hydrogen;

10

a compound of formula (V) wherein:

R¹ is



15

and R³ is hydrogen;

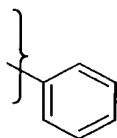
a compound of formula (V) wherein:

R¹ is CH₃ and R³ is hydrogen;

20

a compound of formula (V) wherein:

R¹ is

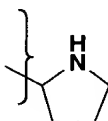


and R³ is CH₃;

25

a compound of formula (V) wherein:

R¹ is



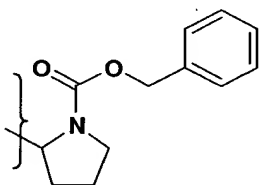
30

and R³ is hydrogen;

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a compound of formula (V) wherein:

R^1 is

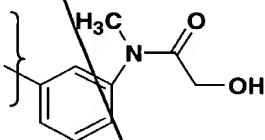


5

and R^3 is hydrogen;

a compound of formula (V) wherein:

R^1 is

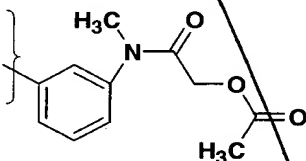


10

and R^3 is hydrogen;

a compound of formula (V) wherein:

R^1 is



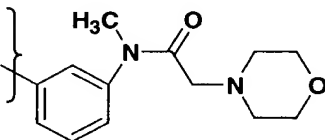
15

and R^3 is hydrogen;

20

a compound of formula (V) wherein:

R^1 is



25

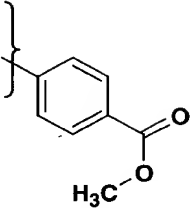
and R^3 is hydrogen;

a compound of formula (V) wherein:

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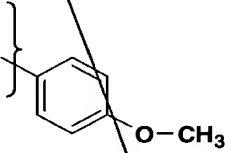
R^1 is



and R^3 is hydrogen;

compound of formula (V) wherein:

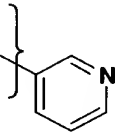
R^1 is



and R^3 is hydrogen;

compound of formula (V) wherein:

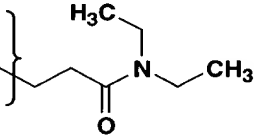
R^1 is



and R^3 is hydrogen;

compound of formula (V) wherein:

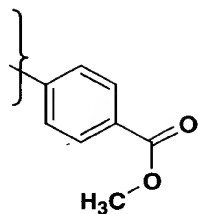
R^1 is



and R^3 is hydrogen;

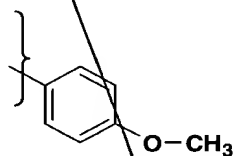
compound of formula (V) wherein:

-225-



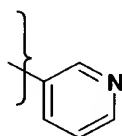
and R^3 is hydrogen;

a compound of formula (V) wherein:

 \mathbb{R}^1 is

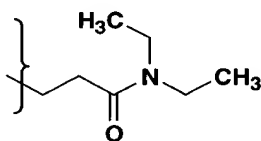
and R^3 is hydrogen;

a compound of formula (V) wherein:

 R^1 is

and R^3 is hydrogen;

a compound of formula (V) wherein:

 R^1 is

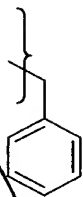
and R^3 is hydrogen;

a compound of formula (V) wherein:

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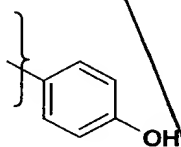
R^1 is



5 and R^3 is hydrogen;

a compound of formula (V) wherein:

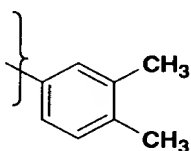
R^1 is



10 and R^3 is hydrogen;

a compound of formula (V) wherein:

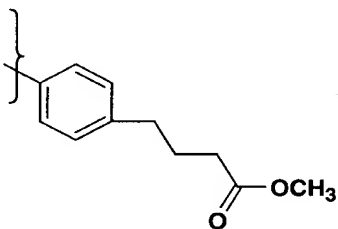
R^1 is



15 and R^3 is hydrogen;

20 a compound of formula (V) wherein:

R^1 is



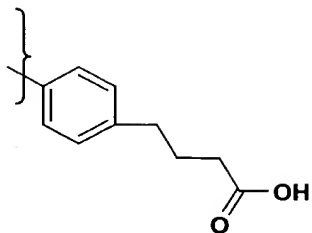
and R^3 is hydrogen;

25 a compound of formula (V) wherein:

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R¹ is

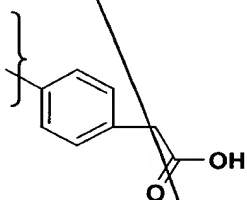


and R³ is hydrogen;

5

a compound of formula (V) wherein:

R¹ is

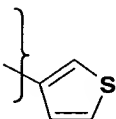


10

and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is



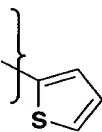
15

and R³ is hydrogen;

a compound of formula (V) wherein:

20

R¹ is



and R³ is hydrogen;

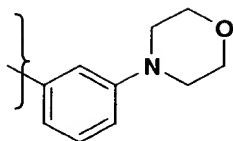
25

a compound of formula (V) wherein:

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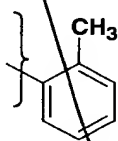
R¹ is



5 and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is

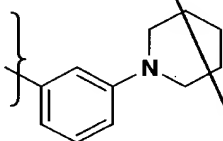


10

and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is

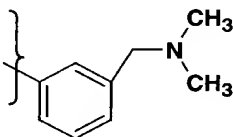


15

and R³ is hydrogen;

a compound of formula (V) wherein:

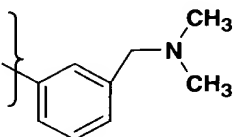
20 R¹ is



and R³ is hydrogen;

25 a compound of formula (V) wherein:

R¹ is



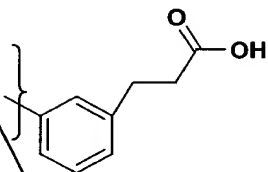
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and R³ is Br;

a compound of formula (V) wherein:

R¹ is

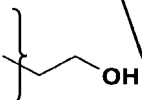


5

and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is

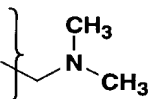


10

and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is

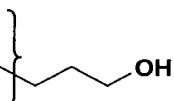


15

and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is



25

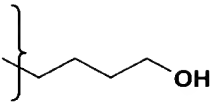
and R³ is hydrogen;

a compound of formula (V) wherein:

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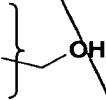
R^1 is


A skeletal structure of 1-butanol, consisting of a four-carbon chain with a hydroxyl group (OH) at the end. The chain is enclosed in brackets with a bond extending from the left bracket.

and R^3 is hydrogen;

compound of formula (V) wherein:

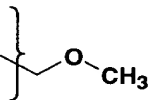
R^1 is


A skeletal structure of 1-propanol, consisting of a three-carbon chain with a hydroxyl group (OH) at the end. The chain is enclosed in brackets with a bond extending from the left bracket.

and R^3 is hydrogen;

compound of formula (V) wherein:

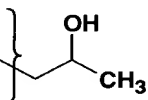
R^1 is


A skeletal structure of 1-methoxypropane, consisting of a three-carbon chain with a methoxy group (O-CH₃) at the end. The chain is enclosed in brackets with a bond extending from the left bracket.

and R^3 is hydrogen;

compound of formula (V) wherein:

R^1 is


A skeletal structure of 2-butanol, consisting of a four-carbon chain with a hydroxyl group (OH) on the second carbon and a methyl group (CH₃) on the third carbon. The chain is enclosed in brackets with a bond extending from the left bracket.

and R^3 is hydrogen;

compound of formula (V) wherein:

-230-

*CCCO

5

a compound of formula (V) wherein:

 CH_3OH

10

and R^3 is hydrogen;

a compound of formula (V) wherein:

15

$$\left\{ \text{---CH}_2\text{---O---CH}_3 \right\}_n$$

and R^3 is hydrogen;

20

a compound of formula (V) wherein:

CC(O)CC

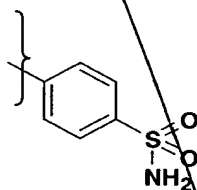
25

a compound of formula (V) wherein:

0 1 2 3 4 5 6 7 8 9

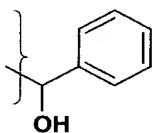
CC(C)(O)c1ccc(cc1)C2=CC=CC=C2

a compound of formula (V) wherein:

 R^1 is

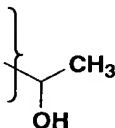
and R^3 is hydrogen;

a compound of formula (V) wherein:

 \mathbb{R}^1 is

and R^3 is hydrogen;

a compound of formula (V) wherein:

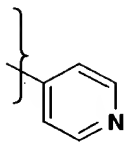
 R^1 is

and R³ is hydrogen;

a compound of formula (V) wherein:

09843-03

R¹ is

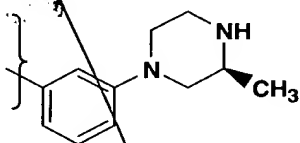


5

and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is

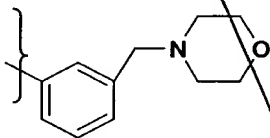


10

and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is



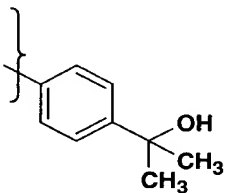
15

and R³ is hydrogen;

a compound of formula (V) wherein:

20

R¹ is



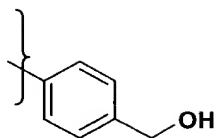
and R³ is hydrogen;

25 a compound of formula (V) wherein:

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R¹ is

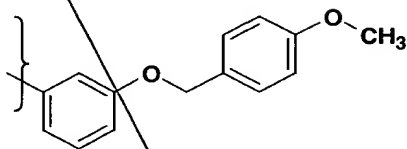


and R³ is hydrogen;

5

a compound of formula (V) wherein:

R¹ is

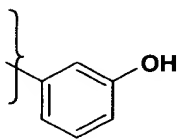


10

and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is

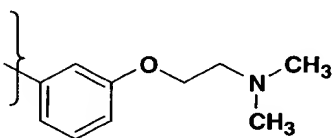


15

and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is



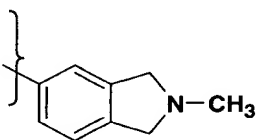
20

and R³ is hydrogen;

a compound of formula (V) wherein:

25

R¹ is

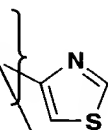
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and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is

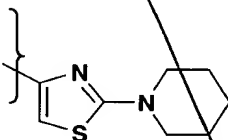


5

and R³ is hydrogen;

10 a compound of formula (V) wherein:

R¹ is

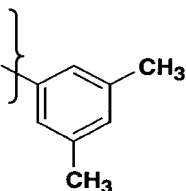


15

and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is

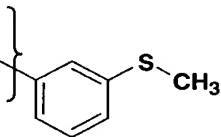


20

and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is



25

and R³ is hydrogen;

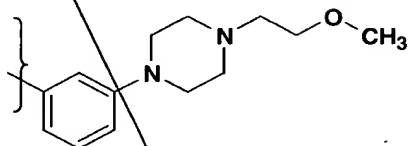
a compound of formula (V) wherein:

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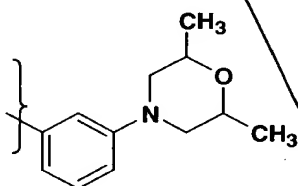
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Cs1cc(ccc1)S(=O)(=O)C

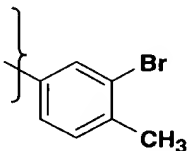
5

 R^1 is

and R^3 is hydrogen;

 \mathbb{R}^1 is

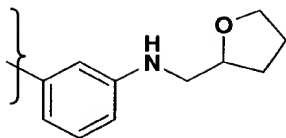
and R³ is hydrogen;

 R^1 is

and R^3 is hydrogen;

-235-

R¹ is

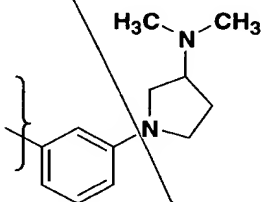


and R³ is hydrogen;

5

a compound of formula (V) wherein:

R¹ is

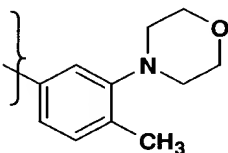


and R³ is hydrogen;

10

a compound of formula (V) wherein:

R¹ is

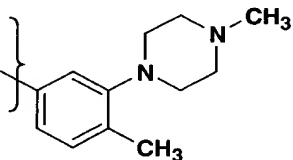


15

and R³ is hydrogen;

20 a compound of formula (V) wherein:

R¹ is

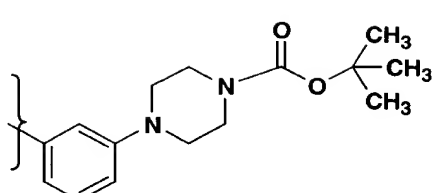


and R³ is hydrogen;

25

a compound of formula (V) wherein:

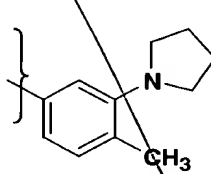
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

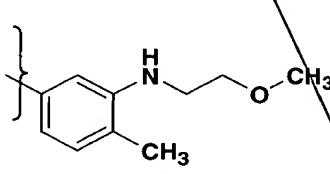
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

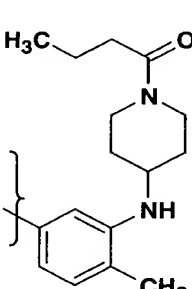
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

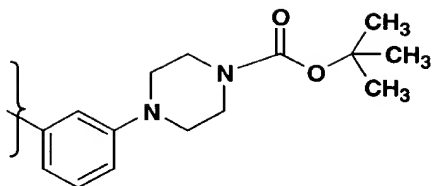
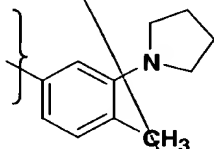
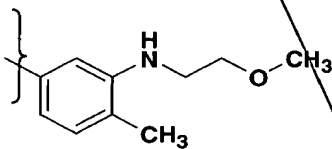
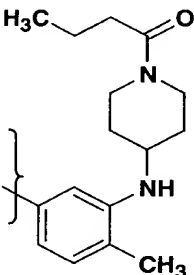
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

-237-

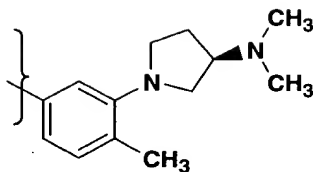
 \mathbb{R}^1 is \mathbb{R}^1 is R^1 is R^1 is

a compound of formula (V) wherein:

$$g \sim \beta^2$$

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R¹ is

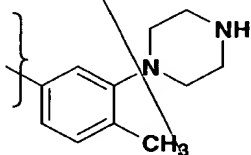


and R³ is hydrogen;

5

a compound of formula (V) wherein:

R¹ is



and R³ is hydrogen;

10

a compound of formula (V) wherein:

R¹ is

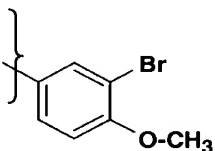


and R³ is hydrogen;

15

a compound of formula (V) wherein:

R¹ is

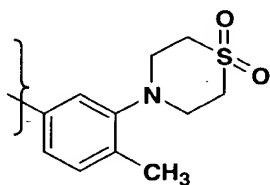


and R³ is hydrogen;

20

25 a compound of formula (V) wherein:

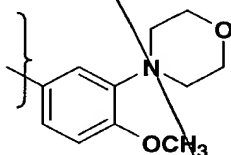
R¹ is



5 and R³ is hydrogen;

a compound of formula (V) wherein:

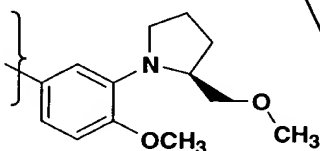
R¹ is



10 and R³ is hydrogen;

a compound of formula (V) wherein:

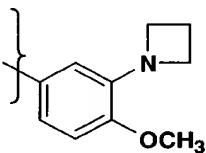
15 R¹ is



20 and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is



25 and R³ is hydrogen;

a compound of formula (V) wherein:

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R¹ is

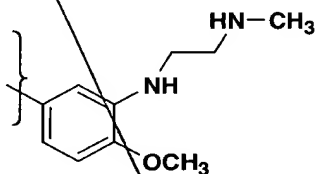


and R³ is hydrogen;

5

a compound of formula (V) wherein:

R¹ is

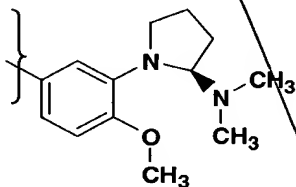


and R³ is hydrogen;

10

a compound of formula (V) wherein:

R¹ is

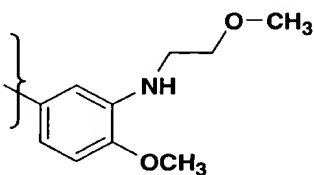


and R³ is hydrogen;

15

a compound of formula (V) wherein:

R¹ is



and R³ is hydrogen;

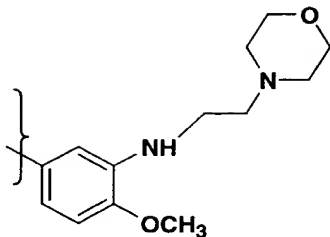
20

a compound of formula (V) wherein:

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R¹ is

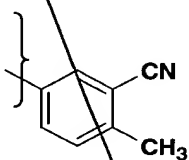


and R³ is hydrogen;

5

a compound of formula (V) wherein:

R¹ is

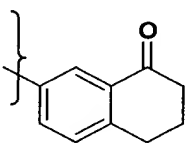


and R³ is hydrogen;

10

a compound of formula (V) wherein:

R¹ is

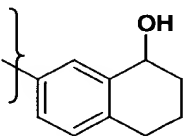


and R³ is hydrogen;

15

a compound of formula (V) wherein:

R¹ is



and R³ is hydrogen;

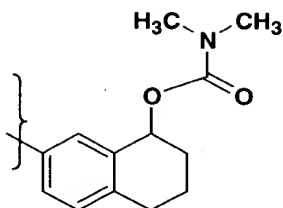
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25 a compound of formula (V) wherein:

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R¹ is

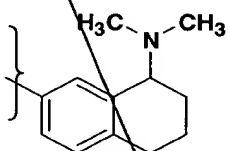


and R³ is hydrogen;

5

a compound of formula (V) wherein:

R¹ is

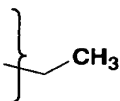


and R³ is hydrogen;

10

a compound of formula (V) wherein:

R¹ is

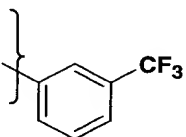


and R³ is hydrogen;

15

a compound of formula (V) wherein:

R¹ is

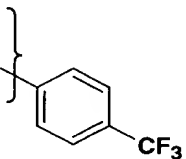


and R³ is hydrogen;

20

a compound of formula (V) wherein:

R¹ is



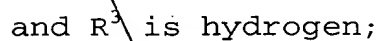
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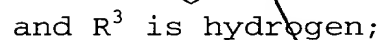
a compound of formula (V) wherein:

5



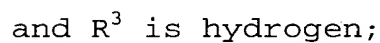
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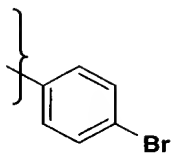
20

Chemical structure of 1-phenylpropan-1-ol. A curly bracket is drawn on the hydroxyl group ($-OH$).

25

a compound of formula (V) wherein:

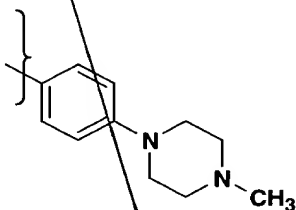
R^1 is



5 and R^3 is hydrogen;

a compound of formula (V) wherein:

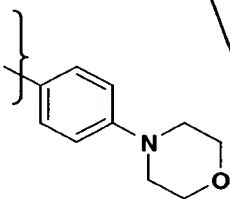
R^1 is



10 and R^3 is hydrogen;

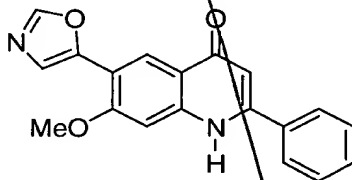
and a compound of formula (V) wherein:

R^1 is



15 and R^3 is hydrogen.

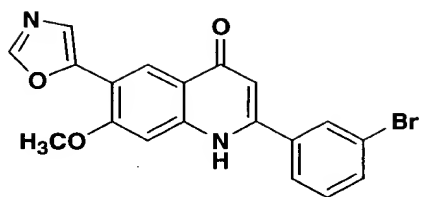
16. A compound of Claim 10 including isomers,
20 enantiomers, diastereomers, tautomers, pharmaceutically
acceptable salts, prodrugs and solvates thereof selected
from:



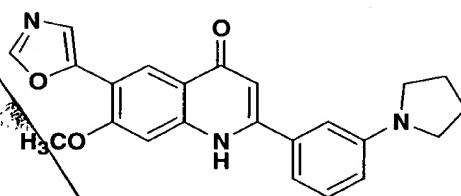
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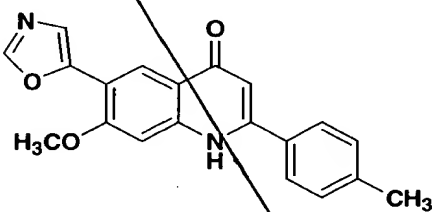
FOI# 042301



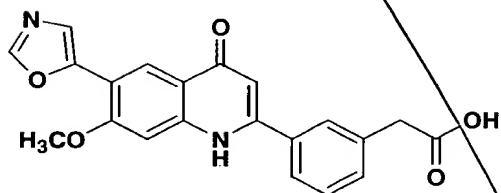
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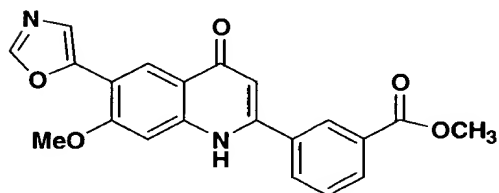
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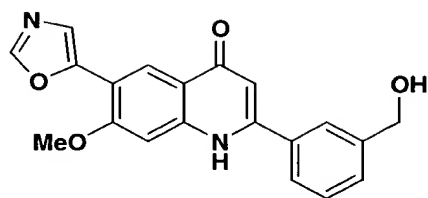


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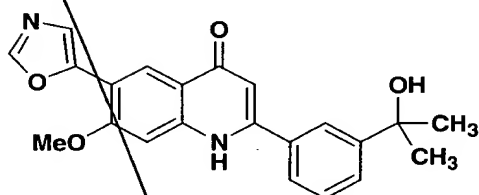


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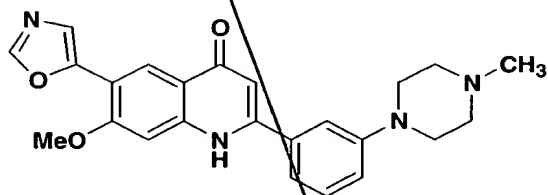




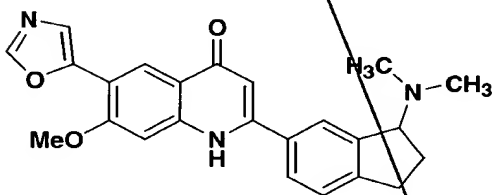
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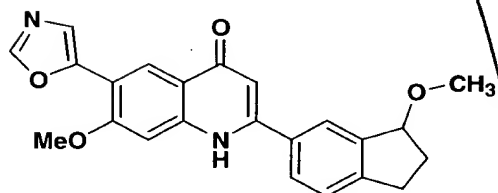
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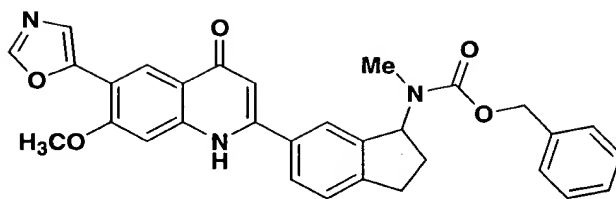
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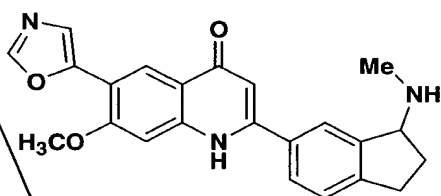
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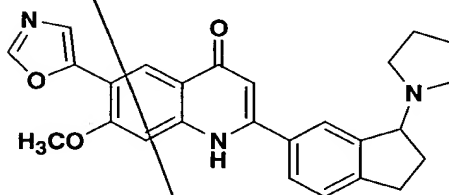
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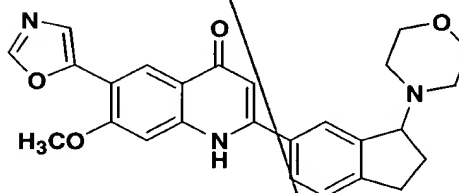
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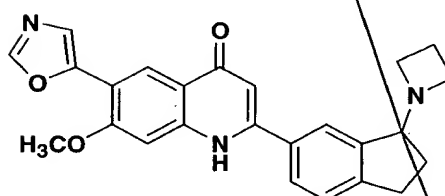
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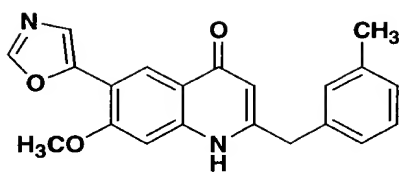
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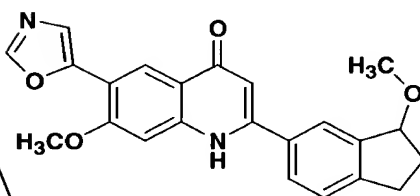
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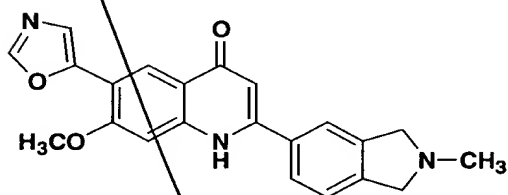
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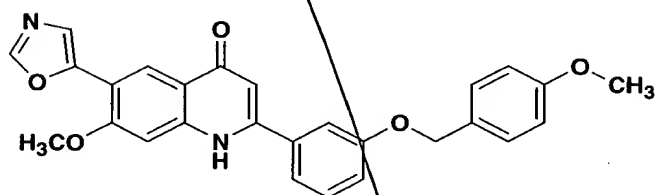
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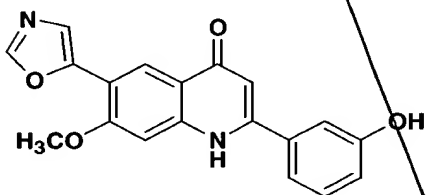
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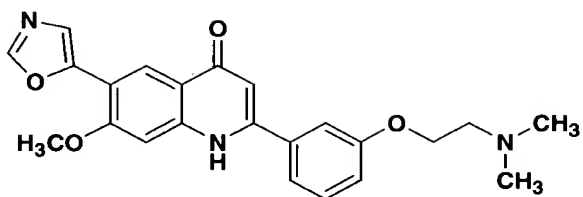
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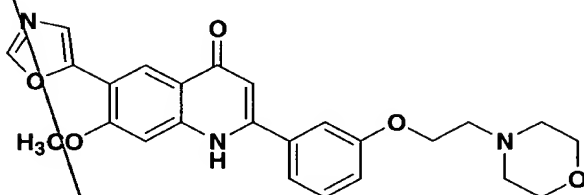
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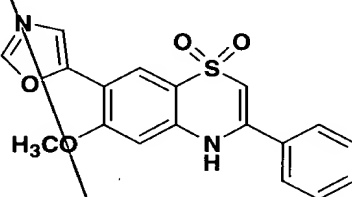
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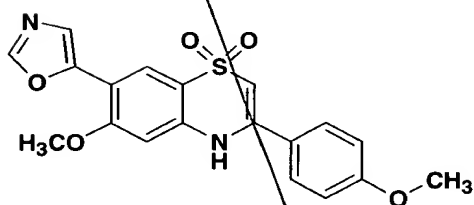
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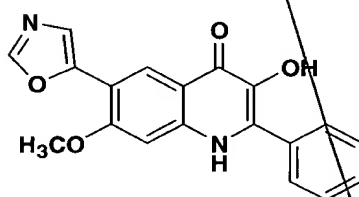
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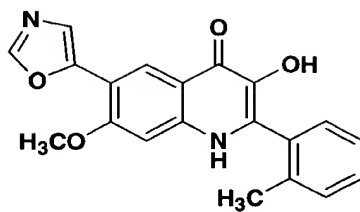
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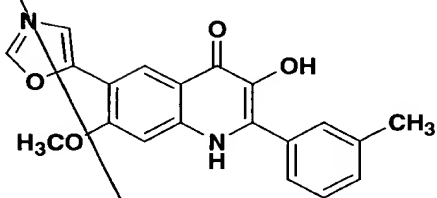
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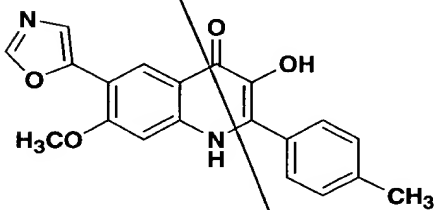
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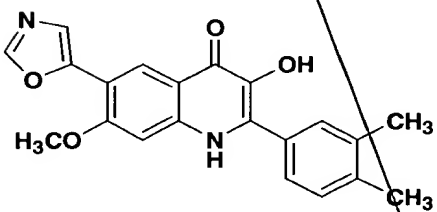
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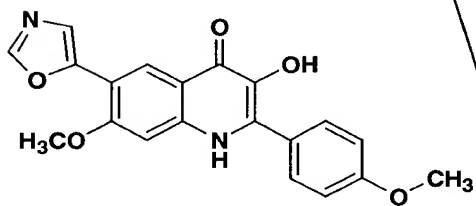
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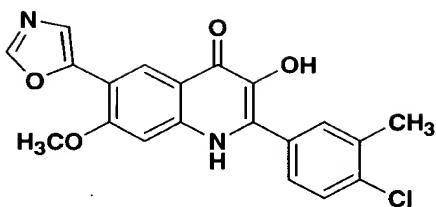
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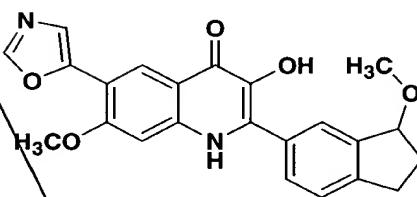
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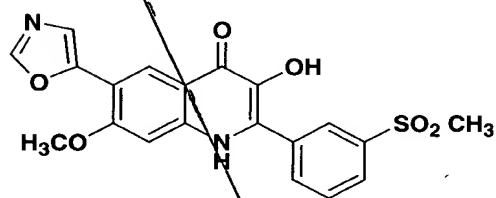
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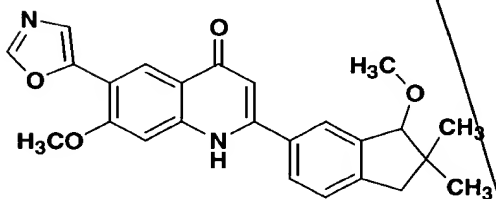
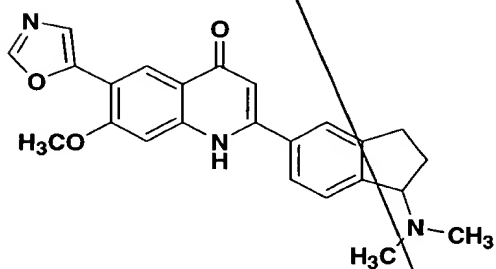
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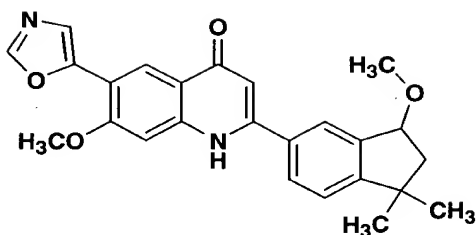


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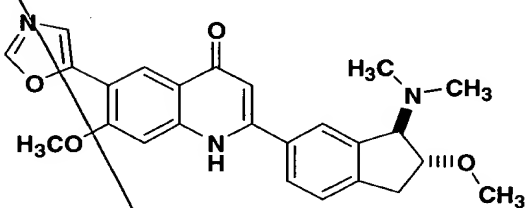


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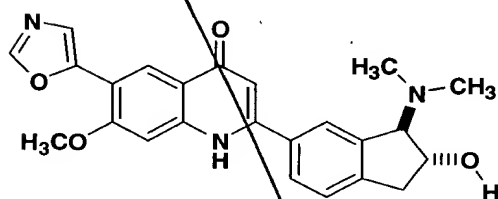
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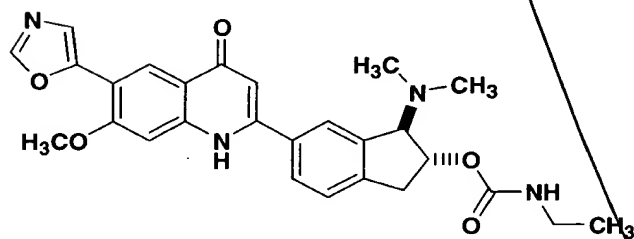
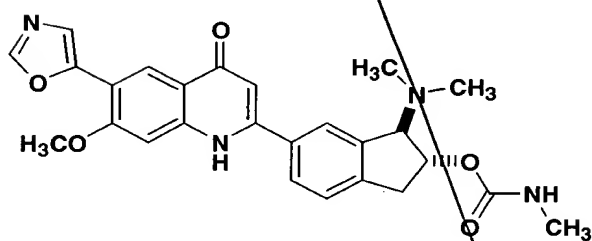
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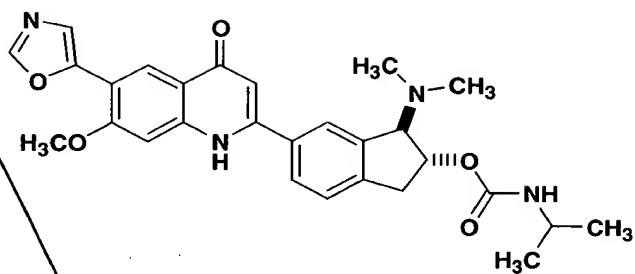
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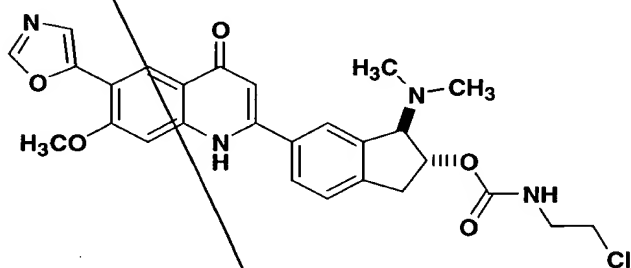
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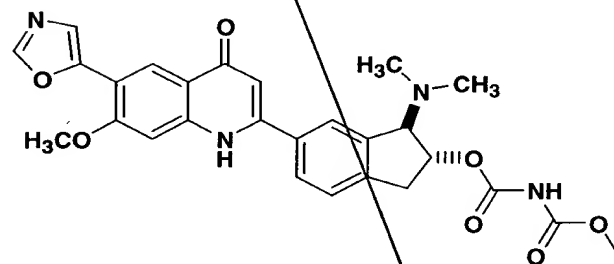
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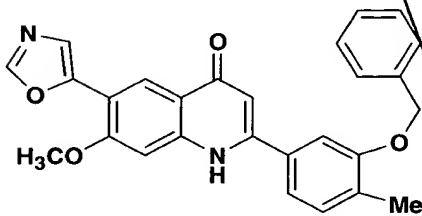
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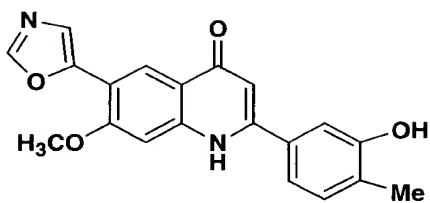


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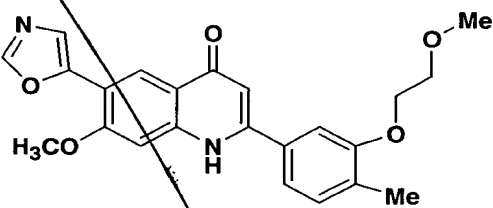


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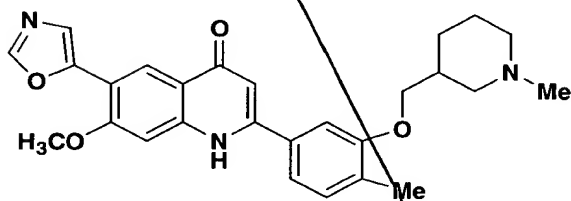
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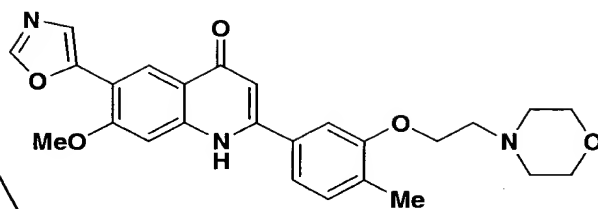
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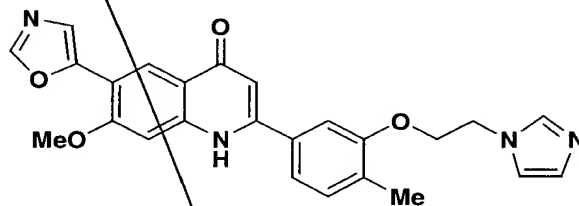
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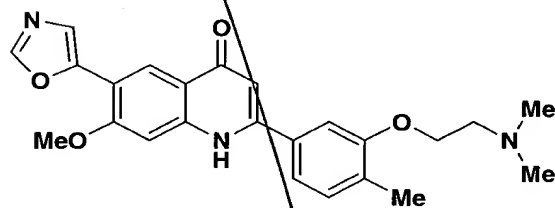
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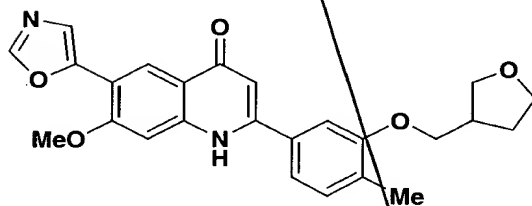
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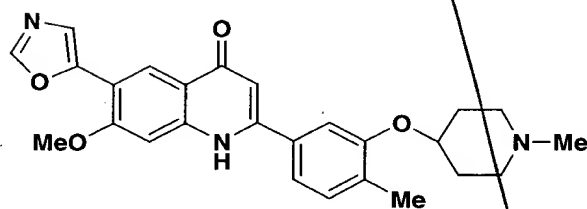
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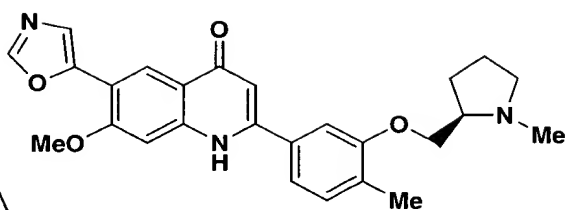
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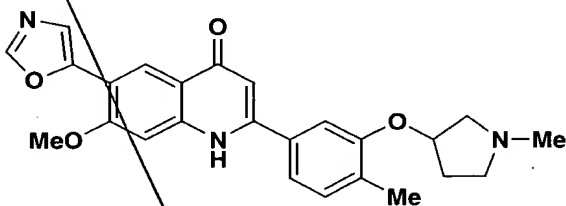
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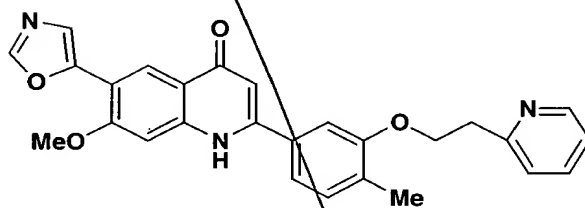
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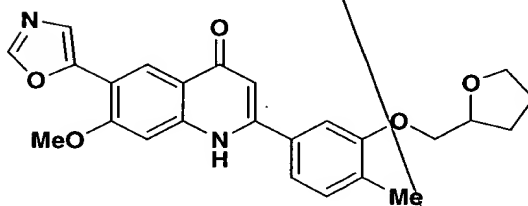
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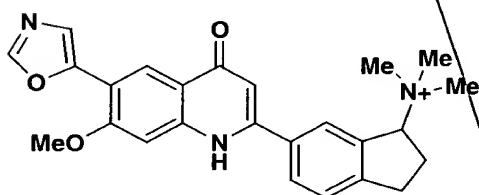
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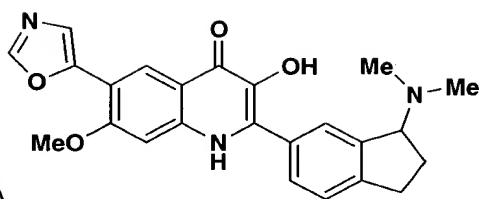
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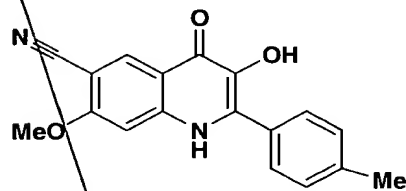
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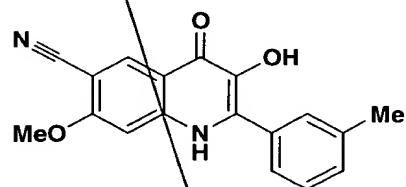
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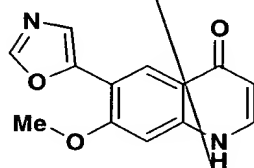
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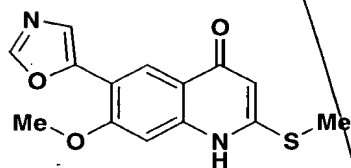
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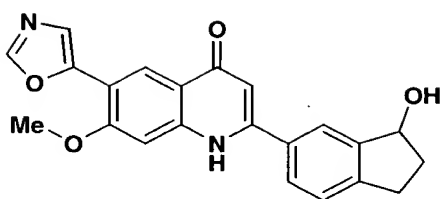


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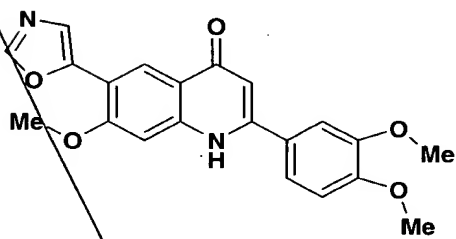


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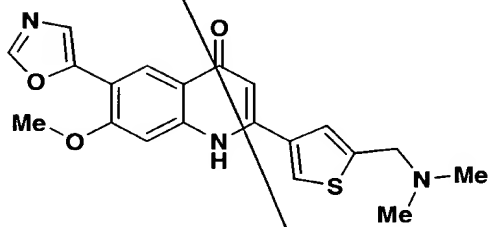




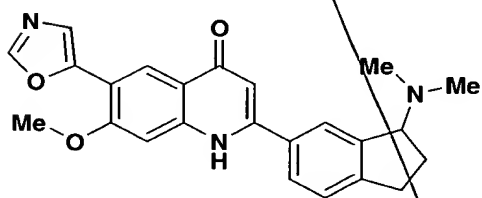
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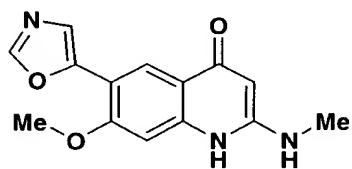
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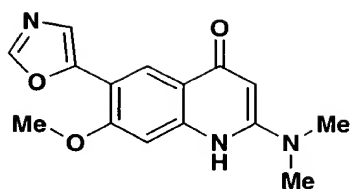


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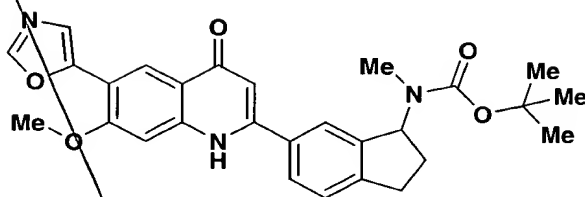


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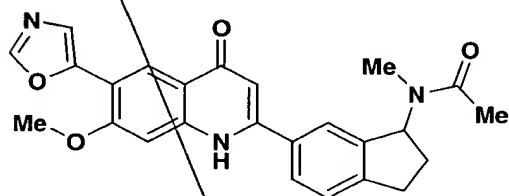
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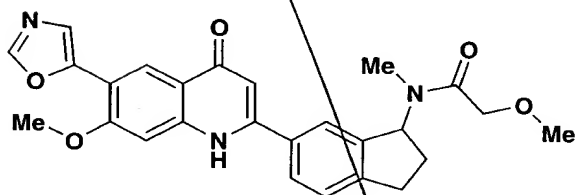
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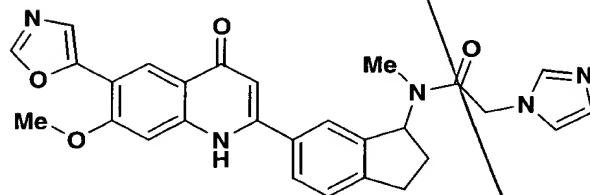
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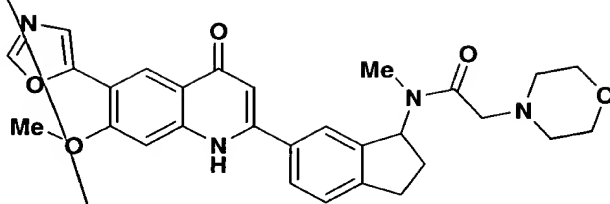


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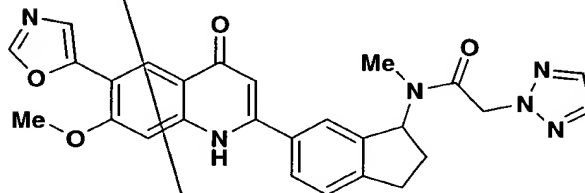


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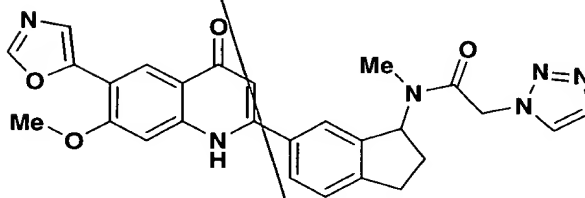




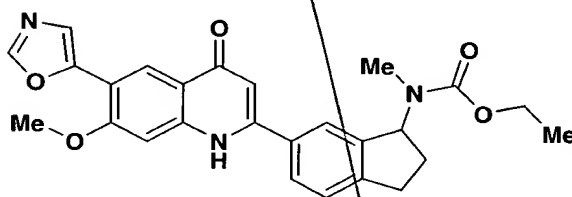
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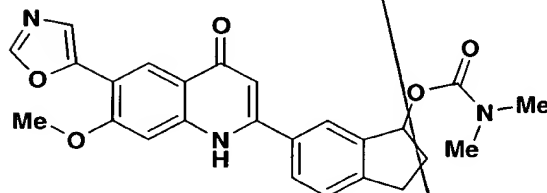
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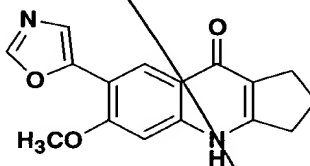
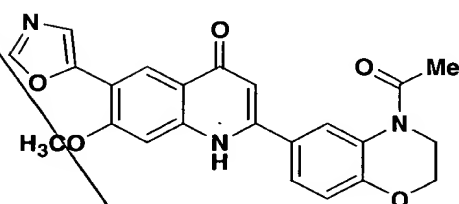
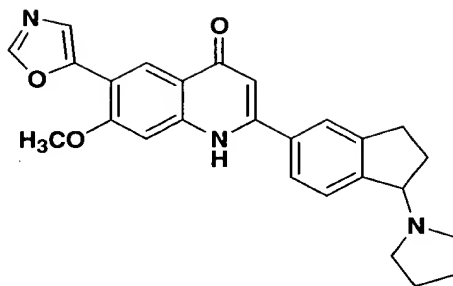
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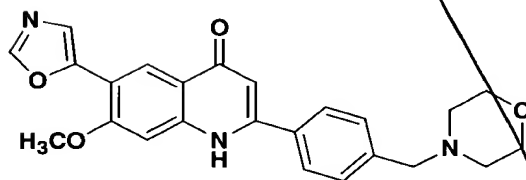
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and



17. A pharmaceutical composition comprising a compound
of Claim 10 and a pharmaceutically acceptable
carrier.

18. A pharmaceutical composition comprising a compound of Claim 11 and a pharmaceutically acceptable carrier.

5 19. A pharmaceutical composition comprising a compound of Claim 12 and a pharmaceutically acceptable carrier.

20. A pharmaceutical composition comprising a compound of Claim 13 and a pharmaceutically acceptable carrier.

10 21. A pharmaceutical composition comprising a compound of Claim 14 and a pharmaceutically acceptable carrier.

15 22. A pharmaceutical composition comprising a compound of Claim 15 and a pharmaceutically acceptable carrier.

23. A pharmaceutical composition comprising a compound Claim 16 and a pharmaceutically acceptable carrier.

20 24. A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering an therapeutically effective amount of the composition of Claim 17.

25 25. A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering a therapeutically effective amount of the composition of Claim 17 and another agent known to be useful in treatment of such disorders.

30 26. A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering a therapeutically effective amount of the pharmaceutical composition of Claim 17 and a phosphodiesterase Type 4 inhibitor.

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